

In the Specification

Rewrite the paragraph on page 8, lines 5-11, as follows:

The illustrated encoder 36 operates on digitized voice data, auxiliary data, and pseudo-random noise (PRN) data. The digitized voice data is applied at a port 40 and is provided, e.g., from A/D converter 18. The digitized voice may comprise 8-bit samples. The auxiliary data is applied at a port 42 and comprises, in one form of the invention, a stream of binary data uniquely identifying the telephone 10. (The auxiliary data may additionally include administrative data of the sort conventionally exchanged with a cell site at call set-up.) The pseudo-random noise data is applied at a port 44 and can be, e.g., a signal that randomly alternates between "-1" and "1" values. (More and more cellular phones are incorporating spread spectrum capable circuitry, and this pseudo-random noise signal and other aspects of this invention can often ~~Apiggy-back~~ "piggy-back" or share the circuitry which is already being applied in the basic operation of a cellular unit).

Rewrite the paragraph extending between page 14, line 27, and page 15, line 20, as follows:

The continued and inevitable engineering improvement in the detection of embedded code signals will undoubtedly borrow heavily from this generic field of known signal detection. A common and well-known technique in this field is the so-called "matched filter," which is incidentally discussed early in section 2 of the Kassam book. Many basic texts on signal processing include discussions on this method of signal detection. This is also known in some fields as correlation detection. Where, as here, the location of the auxiliary signal is known a priori (or more accurately, known to fall within one of a few discrete locations, as discussed above), then the matched filter can often be reduced to a simple vector dot product between a set of sparse PRN data, and mean-removed excerpts of the composite signal corresponding thereto. (Note that the PRN data need not be sparse and may

arrive in contiguous bursts, such as in British patent publication 2,196,167 mentioned earlier wherein a given bit in a message has contiguous PRN values associated with it.) Such a process steps through all 480 sparse sets of PRN data and performs corresponding dot product operations. If the dot product is positive, the corresponding bit of the auxiliary data signal is a "1;" if the dot product is negative, the corresponding bit of the auxiliary data signal is a "0." If several alignments of the auxiliary data signal within the framed composite signal are possible, this procedure is repeated at each candidate alignment, and the one yielding the highest correlation is taken as true. (Once the correct alignment is determined for a single bit of the auxiliary data signal, the alignment of all the other bits can be determined therefrom. ~~AAlignment,~~  $\cong$  "Alignment," perhaps better known as ~~Asynchronization,~~  $\cong$  "synchronization," can be achieved by primarily through the very same mechanisms which lock on and track the voice signal itself and allow for the basic functioning of the cellular unit).

Rewrite the paragraph at page 21, lines 17-20, as follows:

It will be recognized that systems for implementing applicant's invention can ~~comprises~~ comprise dedicated hardware circuit elements, but more commonly comprise suitably programmed microprocessors with associated RAM and ROM memory (e.g. one such system in each of the telephone 10, cell-site 12, and central office 14).